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September 30, 1993

VIA TELECOPY

Kenneth A. Lucas
Senior Remedial Project Manager
United States Environmental Protection Agency
345 Courtland Street Northeast
Atlanta, Georgia 30365

Re: Agreements Reached at September 28, 1993, Meeting
Dispute Resolution Process
Draft Feasibility Study Report and
Final Report, Potential Soil Clean-up Levels
Olin Chemicals/McIntosh Plant Site
McIntosh, Alabama

Dear Mr. Lucas:

This letter sets forth Olin's understanding of agreements reached with EPA at our meeting in Atlanta on September 28, 1993. We met to attempt to resolve the disputes Olin raised in its letter of September 21, objecting to EPA's disapproval of the draft report, Feasibility Study (FS) and final report, Potential Soil Action Levels (PSAL). These disputes were raised in accordance with Section XIV of the Administrative Order By Consent (AOC) between EPA and Olin.

First, Olin feels the meeting was productive and provided the basis, as set forth herein, for resolving all disputes raised in our September 21 letter. Second, Olin feels that this meeting was a good example of the type of effective and problem-solving discussion contemplated by the AOC's dispute resolution process to reach agreement. Olin views invoking the dispute resolution process as a serious step and one not to be taken lightly. Olin will invoke dispute resolution only when there are fundamental disagreements that Olin judges could be harmful to its interests. Once the decision is made to invoke dispute resolution, Olin will include (and included in the September 21 letter) all issues that Olin disputes.

Our understanding of the agreements made at the meeting, identified by the number given to the disputed issue in Olin's September 21 letter, is set forth below. The EPA's comments referred to herein are from EPA's letter of September 2, 1993, transmitting comments on the draft FS report and final PSAL report.

Dispute 1. EPA's General Comment 1 and Specific Comment 4 are resolved. Olin will include appropriate remedial alternatives for the Solid Waste Management Units (SWMUs) identified in EPA's comments in the revised FS. The objective of these alternatives is to ensure that human health and the environment are protected, now and in the future. The objective will be met by assembling alternatives that address all exposure pathways expressed in the Baseline Risk Assessment, with some emphasis on the effect on groundwater of the hazardous substances remaining in these SWMUs. This effect will be quantified and how the effect may change in the future will be discussed. Quantification will be based on information from the Remedial Investigation (RI) report,[1] augmented as necessary by calculations,

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[1] Olin's conclusions that these SWMUs are not continuing sources of groundwater contamination, i.e., they do not cause groundwater concentrations to exceed MCLs, are based in part on the low concentrations in extracts from subjecting samples from the SWMUs to the Toxicity Characteristic Leaching Procedure (TCLP). EPA has stated their position that the TCLP is a regulatory test to determine if a solid waste is toxic enough to be considered a hazardous waste, and is not a leachability test to determine a constituent's potential to leach into groundwater. Olin responded to EPA's position in a letter dated April 12, 1993, regarding the Remedial Technologies, Alternatives Screening Technical Memorandum (RTASTM). Olin's response was:

> We understand the Toxicity Characteristic Leaching Procedure (TCLP) is primarily a regulatory test to determine if a solid waste is a hazardous waste. But it is also a leachability test to determine a constituent's potential to leach from a matrix and become mobile enough to affect groundwater. In fact, a review of the development of the TCLP, and its predecessor Extraction Procedure (EP), indicates that the precise purpose of the test is to assess the potential for hazardous constituents to partition from a matrix into landfill leachate, becoming mobile enough to contaminate groundwater. As EPA stated at 51 *Fed. Reg.* 21648 (June 13, 1986):
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> > When the EP was developed, the Agency had little empirical data upon which to base its assumptions regarding accuracy (Ref. 26). Hence, while the few data that were available regarding accuracy were used in developing the EP, it was primarily based on what was reasonable, as well as what would provide a reproducible (precise) test protocol. While improved reproducibility is one objective of the TCLP, the major objective was to accurately model the mobility of constituents from wastes (emphasis added), particularly organic constituents. Other objectives were that the test be relatively inexpensive to conduct; that, if possible, it yield an extract amenable to evaluation with biological toxicity tests; and that it also model the mobility of inorganic species (emphasis added). This last objective would permit EPA to expand the toxicity characteristic to encompass organics, yet require only one leaching test for both organics and inorganics.
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> And later in the same reference:
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> > As an additional matter, the Agency believes that the predicted degree of contaminant concentration in leachate could reasonably occur in the course of other types of land based waste management (e.g., surface impoundments). The TCLP, as well as the EP, basically involve mixing the waste with an aqueous leaching media, and seeing if certain contaminants can migrate from the waste to a significant degree. If such mobility is demonstrated, EPA believes that the waste in question poses a potential hazard to ground water, and that proper management controls need to be instituted to preclude unacceptable contamination of

modeling, or data, completed or evaluated for revision of the FS. The criteria to judge whether the effect on groundwater is significant will be Maximum Contaminant Levels (MCLs), i.e., whether contaminant migration from a SWMU would cause otherwise uncontaminated groundwater to exceed MCLs at the SWMU boundary. This approach is the same as was used in the RI.

Dispute 2. EPA's Specific Comment 5 is resolved. Comment 5 does not direct any revisions to the FS. Olin will discuss its view of site hydrogeology in light of EPA's comment in the letter transmitting the revised FS report to EPA.

Disputes 3 and 4. Both disputes relate to the same issue, namely, addressing groundwater discharge to surface water after the RCRA Corrective Action Program extraction wells are shut down. See EPA's Specific Comments 6, 11, and 12. Olin will include in the FS dispersion calculations to predict the concentration in groundwater at the point of discharge to surface water after the wells are shut down. Since the RCRA wells cannot be shut down until concentrations in groundwater are below the MCLs for three consecutive years (per Olin's RCRA permit), the groundwater at the downgradient edge of the plume will be at the MCL. This groundwater, after the wells are shut down, will flow toward surface water (the Tombigbee River and Bilbo Creek) and Olin will calculate the concentration of groundwater at the point of discharge. If the concentration at the point of discharge to surface water is predicted to be above the Ambient Water Quality Criteria (AWQC), Olin will propose a

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> ground water. This applies to the leaching of both organics and inorganics.
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> First, as discussed previously, minor changes to primarily aqueous media do not generally affect the leaching of organic compounds. For inorganics, the acidity afforded by the TCLP leaching fluid accounts for the possibility that wastes could be subjected to mild acidic conditions occurring in other types of land disposal environments.

The reason the extraction fluid is adjusted to an acidic pH is to simulate the nature of sanitary landfill leachate. To our view, this acidic pH ensures that the TCLP provides a conservative estimate of the concentration of mercury that could partition from soils or waste into infiltrating rain water.

In our meeting of March 31, 1993, in Atlanta, EPA further clarified that the specific concern is to use a reasonable estimate of leachate concentration for the calculation of groundwater concentrations that may result from migration of contaminants from soils of waste to groundwater. As a result of that meeting, EPA and Olin are continuing discussions on the appropriate leachate concentrations and the method to estimate them.

Olin's position continues to be that the TCLP is an appropriate, even conservative, measure of the leachability of hazardous substance constituents, especially metals, from a waste or soil matrix into groundwater with which it is in contact. We believe the EPA's own words agree with this and do not understand Region IV's position in light of the above statements from the Federal Register. We also note that Olin clearly stated in the Phase III Sampling and Analytical Plan that "The Toxicity Characteristic Leachate Procedure (TCLP) mercury analyses will be performed to assess the leachability of any detected mercury." EPA approved this Plan, but now is taking a position that the TCLP is inappropriate for the use they approved.

monitoring alternative to ensure that groundwater concentrations resulting from OU-1 constituents do not actually exceed AWQCs at the point of discharge in the future and a contingency remedial alternative to address such concentrations if they occur.

Dispute 5. EPA's Specific Comment 13 is resolved. Olin will include a table in the FS summarizing porosities used, the basis of each, and references regarding the basis.

Dispute 6. EPA's Specific Comment 14 is resolved. No revisions to the draft FS report required.

Dispute 7. EPA's Specific Comment 15 is resolved. No revisions to the draft FS report required.

Dispute 8. EPA's Specific Comment 20 is resolved. EPA accepts that the food chain modeling discussed as part of additional work in OU-2 has not yet been conducted and cannot be included in the FS. Olin will include a discussion of the dietary intake calculations and other bases of the current Baseline Risk Assessment conclusion of no unacceptable ecological risks. Olin will express ecological risks in quantitative terms to the extent possible to enhance the support for the conclusions and alternatives for OU-2. Specific to the two small ponds north of the Basin, Olin will either support that remedial alternatives are not required or include the ponds in Basin remedial alternatives.

Dispute 9. EPA's Specific Comment 31 is resolved. No revisions to the draft FS report required.

Dispute 10. EPA's Specific Comment 37 is resolved. No revisions to the draft FS report required.

Dispute 11. EPA's Specific Comment 39 is resolved. Olin will explain the basis of the conclusion that the Basin is a depositional area,[2] i.e., that sediments present now do not erode and suspended sediments in floodwaters will be deposited on top of existing sediments. Olin will also include an additional monitoring component to the institutional action alternative to measure the rate of sedimentation. The additional monitoring would allow an estimate of the time to cover existing sediments with sediments deposited from floodwaters.

Dispute 12. EPA's comments in Enclosure B of its September 2, 1993, letter are resolved, but Olin and EPA do not agree on the applicability of the SOLUTE model for estimating soil action levels. No revisions in the draft FS report or PSAL report are required since results from models other than SOLUTE were included and will be retained in the revised FS report.

Dispute 13. This dispute is resolved, contingent upon EPA's acceptance of this letter as an accurate record of EPA and Olin agreements during the September 28 meeting. If EPA accepts this letter as an accurate record, the FS report, revised in accordance with all EPA comments of September 2, 1993, is due to be submitted to EPA October 21, 1993.

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[2] The basis of this conclusion is the Basin hydrodynamic study which was not completed when the FS was submitted.

We believe this letter is an accurate record of our discussion during the dispute resolution meeting between EPA and Olin on September 28, 1993. As we discussed at the meeting, Olin is to send this letter to you by telecopy by close of business, Thursday, September 30, 1993. If EPA agrees that it is an accurate record, then you will so advise Olin, in writing via telecopy, by close of business, Friday, October 1, 1993.

If this letter does not resolve the matter, then it is our understanding that the dispute resolution procedure set forth in Section XIV of the AOC must proceed, and on October 6, 1993, the matter must be referred to the Director of the Waste Management Division of Region IV.

In closing, Olin initiated this dispute resolution process in a good faith attempt to deal with serious issues, and we are glad that EPA has responded in kind. We want to reiterate that we felt the meeting was very productive. Please call me at 615-336-4308 if you have any questions regarding this letter or any other issues related to the dispute resolution.

Sincerely,
OLIN CORPORATION

J. C. Brown
Manager Environmental Technology

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